This listing of claims will replace all prior versions, and listings, of claims in the application.

1. Listing of Claims: (Canceled)

2. (Previously presented) A computer-implemented method of compiling computer code, comprising:

creating a flowgraph according to abstract computer instructions, wherein the flowgraph has a plurality of basic blocks and at least one data object, and wherein the abstract instructions are translated from a parse tree formed from computer code;

assigning a depth-first order to the plurality of basic blocks;

determining a dominance relationship between the plurality of basic blocks;

determining whether any loops are present within the flowgraph and, if any loops are present, identifying the loops;

determining a usage of the at least one data object;

determining a creation point, destruction point and lock point for the at least one data object according to the usage, identified loops, dominance relationship and depth-first order of the plurality of basic blocks; and

inserting instructions into the computer code to create the at least one data object at the creation point, to destroy the at least one data object at the destruction point and to lock the at least one data object at the lock point; and

wherein determining a creation point further comprises:

identifying a first use of the at least one data object and identifying a first basic block in which the first use occurs from the plurality of basic blocks, wherein the first use of the at least one data object is the original creation point;

identifying a use of the at least one data object subsequent to the first use and identifying a second basic block in which the subsequent use occurs from the plurality of basic blocks;

calculating an intersection of the pre-dominators of the first basic block with the pre-dominators of the second basic block;

determining whether the intersection contains the first basic block; and

choosing, if the intersection does not contain the first basic block, a new creation point from the intersection.

3. (Original) The computer-implemented method of claim 2, wherein choosing a new creation point from the intersection comprises determining whether the new creation point is in a different loop than the original creation point and, if so, choosing a new creation point that bypasses all inner loops between the original creation point and the new creation point.

4-20. (Canceled)

21. (Currently amended) A computer-readable storage medium having computer-executable instructions that, when executed by a computer ~~for compiling computer code~~, ~~the~~ perform a method of compiling computer code, the method comprising:

creating a flowgraph according to abstract computer instructions, wherein the flowgraph has a plurality of basic blocks and at least one data object, and wherein the abstract instructions are translated from a parse tree formed from computer code;

assigning a depth-first order to the plurality of basic blocks;

determining a dominance relationship between the plurality of basic blocks;

determining whether any loops are present within the flowgraph and, if any loops are present, identifying the loops;

determining a usage of the at least one data object;

determining a creation point, destruction point and lock point for the at least one data object according to the usage, identified loops, dominance relationship and depth-first order of the plurality of basic blocks; and

inserting instructions into the computer code to create the at least one data object at the creation point, to destroy the at least one data object at the destruction point and to lock the at least one data object at the lock point; and:

wherein determining a creation point further comprises:

identifying a first use of the at least one data object and identifying a first basic block in which the first use occurs from the plurality of basic blocks, wherein the first use of the at least one data object is the original creation point;

identifying a use of the at least one data object subsequent to the first use and identifying a second basic block in which the subsequent use occurs from the plurality of basic blocks;

calculating an intersection of the pre-dominators of the first basic block with the pre-dominators of the second basic block;

determining whether the intersection contains the first basic block; and

choosing, if the intersection does not contain the first basic block, a new creation point from the intersection.

22. (Currently amended) The computer-readable storage medium of claim 21, wherein choosing a new creation point from the intersection comprises determining whether the new creation point is in a different loop than the original creation point and, if so, choosing a new creation point that bypasses all inner loops between the original creation point and the new creation point.

23-39. (Canceled)

40. (Previously presented) A method of compiling XLANG/s code, comprising:

creating a flowgraph having a plurality of basic blocks and at least one data object according to abstract computer instructions;

determining a dominance relationship between the plurality of basic blocks;

identifying any loops formed by the plurality of basic blocks;

determining a usage of the at least one data object according to the abstract instructions;

determining a creation point, destruction point and lock point for the at least one data object according to the usage, identified loops, dominance relationship and depth-first order of the plurality of basic blocks; and

inserting instructions into the computer code to create the at least one data object at the creation point, to destroy the at least one data object at the destruction point and to lock the at least one data object at the lock point; and:

wherein determining a creation point further comprises:

identifying a first use of the at least one data object and identifying a first basic block in which the first use occurs, wherein the first use of the at least one data object is the original creation point;

identifying a second use of the at least one data object in a second basic block, wherein the second basic block is a higher-ordered basic block than the first basic block;

calculating an intersection of the pre-dominators of the first basic block with the pre-dominators of the second basic block;

determining whether the intersection contains the first basic block; and

choosing, if the intersection does not contain the first basic block, a new creation point contained in the intersection.

41. (Original) The method of claim 40, wherein choosing a new creation point from the intersection comprises determining whether the new creation point is in a different loop than the original creation point and, if so, choosing a new creation point that bypasses all inner loops between the original creation point and the new creation point.

42-47. (Canceled)